

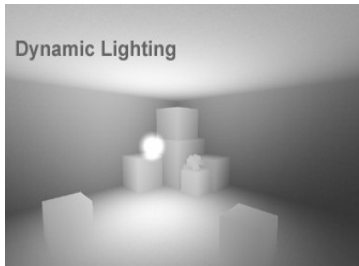
# Blender 2.41



With less than one month of development time, this has been a short and sweet release cycle. The focus of this release is the Game Engine which has added a number of nice new features such as **GLSL shaders**, the capability of using **multiple materials** and uv maps; **multiple viewports**; as well as a number of important fixes such as the return of the **armature system**. Of course Blenders core tools also have been improved, with **subsurf aware UV mapping**; the addition of a **live sculpting** tool; **set chaining**; a number of python script additions and improvements and a the addition of the python **Pose module** along with other python improvements and fixes.

## Game Engine Update Overview

GLSL shaders, the ability to use Blender materials within the Game Engine, multiple UV sets, multiple viewports, the return of the armatures, double sided lighting, alpha test sorting, restoration of sound, along with work on the bullet rigidbody dynamics and collision system, and numerous game engine fixes, makes this a great release for Game Engine aficionados.



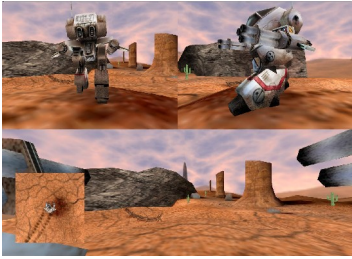
## GLSL Pixel and Vertex shaders

You can now program pixel and vertex shaders to be used in the game engine.



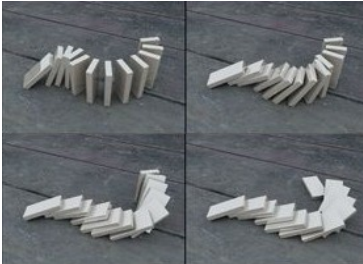
## Blender Materials

Previous game engine releases had to use a special materials system that offered only a small subset of the Blender Materials power. With this release users now have almost full access to Blenders material capabilities including multiple textures, multiple materials, material IPO curves. Additionally game engine users can utilize Multiple UV sets within the game engine.



## Split Screen and multi-viewports

You can now split the screen into simultaneous views from different cameras, also embeded viewports are allowed.



## Physics

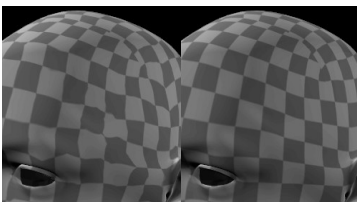
Mostly fixes this update,



## Restored Functionality and Misc

Two major improvements are the return of the armature capabilities (which were lost in the animation rewrite of 2.40), and the return of sound capabilities to all supported platforms. Users will also notice smoother interaction, and a number of general quality improvements.

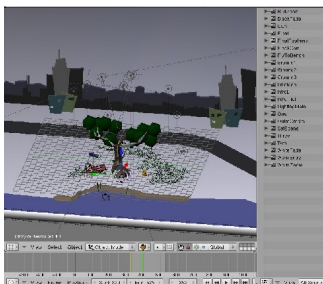
## Core Tools update



Credits Brecht

## Subsurf UV unwrapping

Now UV unwrapping can utilize subsurfed UV coordinates, which can give much accurate uv unwrapping.



## Set Chaining

Allows a main scene to contain 'sub-scenes', allowing easy adjustment of the main scene by varying the sub-scenes that are included..

Credits: Nathan Letwory

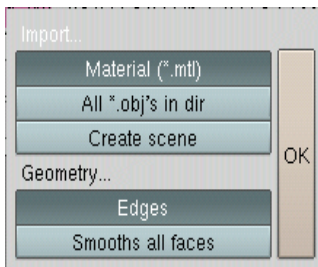
# Python update Overview

A great deal of improvements happen in the python arena. A number of additions to the python API especially the bringing back of the Pose module, and a number of other enhancements and fixes. Also there has been added a sculpting and mesh relaxation brush, a tri2quads script, and a number of nice i/o scripts, as well as many script updates.



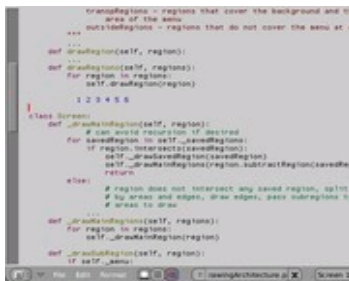
## Python Tools

two great tools were added - mesh sculpting - that allows you to push, pull and stretch mesh as if it were clay, as well as many other nice capabilities. There is also tri2quad which intelligently creates quads from tris. Plus updates such as the texture baking script.



## IO Scripts

Direct X script was updated to export animation, Collada also added some animation export, open-flight, and other scripts were added.



## Pose Module & API Misc

we've had quite a few improvements in the API. Script authors should have what they need now in order to import and export animation, as well as make full use of the mesh module.



## **Bug Fixes**

Bugs? Death to all Bugs!

## **Credits**

And of course thanks to those who helped with demos, testing, docs, bug hunting, webpages, bug reports, testing builds, and so on... great work all!